

Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ABSTRACTS

GF

THE PAPERS

COMMUNICATED TO

THE ROYAL SOCIETY OF LONDON

From 1850 to 1854 inclusive.

VOL. VI.

1850 to 1854.

PRINTED, BY ORDER OF THE PRESIDENT AND COUNCIL,

From the Journal Book of the Society.

LONDON:
PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

MDCCCLIV.

CONTENTS.

VOL. VI.

1850.

Researches into the Structure of the Spinal Chord. By Jacob Lockhart Clarke, Esq	1
On the Action of Nitric Acid on various Vegetables, with a more particular examination of <i>Spartium scoparium</i> , Linn., or Common Broom. By John Stenhouse, Esq., F.R.S	3
Results of Observations on the Distribution of Temperature in the Alps. By Professor Hermann Schlagintweit	6
1851.	
Researches on the Distribution of Vegetables in the Alps compared with the Differences of Climate, and on the Periodical Development of Plants at different heights. By Adolph Schlagintweit	12
On the Results of Periodical Observations of the Positions and Distances of Nineteen of the Stars in Sir John Herschel's Lists of Stars favourably situated for the investigation of Parallax contained in Part III. of the Phil. Trans. for 1826, and in Part I. for 1827. By Lord Wrottesley, F.R.S., &c.	13
Magnetic Survey of the Eastern Archipelago. By Captain C. M. Elliot, of the Madras Engineers	15
On the Oxidation of Ammonia in the Human Body, with some remarks on Nitrification. By Henry Bence Jones, M.D., F.R.S., &c.	22
Description of a Muscle of the striped variety, situated at the posterior part of the choroid coat of the Eye in Mammals, with an explanation of its mode of action in adapting the Eye to distinct vision at different distances. By George Rainey, Esq., M.R.C.S	23
On the Supply of Water from the Chalk Stratum in the neighbour-hood of London. By John Dickinson, Esq., F.R.S	25
liot, of the Madras Engineers On the Oxidation of Ammonia in the Human Body, with some remarks on Nitrification. By Henry Bence Jones, M.D., F.R.S., &c. Description of a Muscle of the striped variety, situated at the posterior part of the choroid coat of the Eye in Mammals, with an explanation of its mode of action in adapting the Eye to distinct vision at different distances. By George Rainey, Esq., M.R.C.S. On the Supply of Water from the Chalk Stratum in the neighbour-	22 23

On Rubian and its Products of Decomposition. By Edward Schunck, Esq., F.R.Spage	27
On Periodical Laws discoverable in the mean effects of the larger Magnetic Disturbances. By LieutCol. Sabine	30
On the Explanation of the so-called 'Mysterious Circles'. By the Rev. Robert H. Atherton	33
On the relation of the Direction of the Wind to the Age of the Moon, as inferred from observations at the Royal Observatory, Greenwich, from 1840 November to 1847 December. By G. B. Airy, Esq., F.R.S., Astronomer Royal	33
On the Meteorology of the Lake District, including the results of experiments on the fall of Rain at various heights up to 3166 feet above the sea-level. Fourth paper. For the year 1850. By John Fletcher Miller, Esq., F.R.S., F.R.A.S., &c	34
On the Rolling Motion of a Cylinder. By the Rev. H. Moseley, M.A., F.R.S., &c.	35
On the Anatomy and Physiology of Salpa and Pyrosoma. By Thomas H. Huxley, Esq	37
On the Extraordinary Fall of Rain in the neighbourhood of London on the 15th instant. By James Glaisher, Esq., F.R.S	39
Observations upon Appendicularia and Doliolum. By Thomas H. Huxley, Esq	41
Researches into the Molecular Constitution of the Organic Bases. Part II. By A. W. Hofmann, Ph.D	41
Description and purpose of the glass plate which bears the inscription 'Interferenz spectrum. Longitudo et celeritas undularum lueis relativa cum in aëre tum in vitro.' By T. A. Nobert	43
Corrections of the Constants in the general theory of Terrestrial Magnetism. By Professor Kämtz	45
An account of two cases in which an Ovule, or its remains, was discovered after death in the Fallopian tube of the unimpregnated human female, during the period of Menstruation. By H. Letheby, M.B.	55
On the Megatherium:—Part II. By Professor Owen	57
Note relating to M. Foucault's new mechanical proof of the Rotation of the Earth. By C. Wheatstone, Esq., F.R.S., Corresponding Member of the Academies of Science of Paris, Berlin, Brussels, Turin, Rome, Dublin, &c	65
Report of further Observations made upon the Tidal Streams of the English Channel and German Ocean, under the authority of the Admiralty, in 1849 and 1850. By Captain F. W. Beechey, R.N	68
Additional Observations on the Diffusion of Liquids. By Thomas Graham, Esq., F.R.S., F.C.S., &c.	70
On the Annual Variation of the Magnetic Declination, at different periods of the Day. By LieutCol. Sabine, R.A., V.P., and Treas. R.S., &c.	73
Sur les ondes atmosphériques. By M. Quetelet	74
Researches in Symbolical Physics. On the Translation of a Directed Magnitude as symbolised by a Product. The Principles of Statics established symbolically. By the Rev. M. O'Brien, M.A., late Fel-	-

low of Caius College, Cambridge, and Professor of Natural Philosophy and Astronomy in King's College, Londonpage	76
On an Air-Engine. By James Prescott Joule, F.R.S., &c	77
Experiments made at York (Lat. 53° 58' N.) on the Deviation of the Plane of Vibration of a Pendulum from the meridional and other vertical planes. By John Phillips, Esq., F.R.S	78
Note on instantaneous Photographic images. By H. F. Talbot, Esq., F.R.S., &c.	82
On the Impregnation of the Ovum, in the Amphibia (Second Series), and on the Nature of the Impregnating Influence. By George Newport, Esq., F.R.S., F.L.S., &c.	82
The Human Iris; its Structure and Physiology. By Bernard E. Brodhurst, M.R.C.S.	84
On the Automatic Temperature-compensation of the Force Magnetometers. By C. Brooke, M.B., F.R.S	85
On the Reproduction of the Ascaris Mystax. By Henry Nelson, M.D.	86
On Induced and other Magnetic Forces. By Sir W. Snow Harris, F.R.S., &c.	87
Researches into the Identity of the Existences or Forces, Light, Heat, Electricity and Magnetism. By John Goodman, M.D	92
On the Mean Temperature of the Observatory at Highfield House, near Nottingham, from the year 1810 to 1850. By Edward Joseph Lowe, Esq., F.R.A.S.	94
On Depressions of the Wet-bulb Thermometer during the Hot Season at Ahmednuggur, in the Deccan. By Colonel Sykes, F.R.S., &c	96
On a General Law of Density in saturated Vapours. By J. J. Waterston, Esq.	97
Experimental Researches in Electricity. Twenty-eighth Series. On Lines of Magnetic Force; their definite character; and their distribution within a Magnet and through Space. By Michael Faraday, Esq., D.C.L., F.R.S., &c.	101
A Proof (by means of a series) that every Number is composed of 4 Square Numbers, or less, without reference to the properties of Prime Numbers. By Sir Frederick Pollock, Lord Chief Baron,	132
F.R.S., &c. On the Valves of the Heart. By W. Savory, Esq	
•	
1852.	
Contributions to the Physiology of Vision.—Part II. On some remarkable, and hitherto unobserved, phænomena of Binocular Vision,—(continued). By Charles Wheatstone, Esq., F.R.S	138
On the Development of the Ductless Glands of the Chick. By Henry Gray, Demonstrator of Anatomy at St. George's Hospital	
Researches on the Geometrical Properties of Elliptic Integrals. By the Rev. James Booth, LL, D. F.R.S., &c.	143

further Researches into the Structure, Development and Functions of the Liver. By C. Handfield Jones, M.D., F.R.S page	145
Discovery that the veins of the Bat's wing, which are furnished with valves, are endowed with rythmical contractility, and that the onward flow of blood is accelerated at each contraction. By T. Wharton Jones, F.R.S., Fullerian Professor of Physiology in the Royal	
Institution of Great Britain, &c	147
Some observations on the Ova of the Salmonidæ. By John Davy, M.D., F.R.S., Lond. and Ed., Inspector-General of Army Hospitals, &c	149
Letter from Professor Haidinger to Captain Smyth, R.N., For. Sec. R.S., dated Vienna, January 15, 1852, containing a demonstration of the theorem that in a ray of polarized light the vibrations are perpendicular to the plane of polarization	150
On the Stability of the Earth's Axis of Rotation. By Henry Hennessy, Esq., M.R.I.A., &c	151
On the Arrangement of the Foliation and Cleavage of the Rocks of the North of Scotland. By Daniel Sharpe, Esq., F.R.S., V.P.G.S	152
On the Motions of the Iris. By B. E. Brodhurst, Esq., M.R.C.S	154
On the Anatomy of <i>Doris</i> . By Albany Hancock, Esq., and Dennis Embleton, M.D., Lecturer on Anatomy and Physiology in the Newcastle-on-Tyne College of Medicine, in connection with the University of Durham	157
Remarks on certain points in Experiments on the Diffraction of Light. By the Rev. Baden Powell, M.A., F.R.S., &c., Savilian Professor of Geometry in the University of Oxford	160
On the Lunar Atmospheric Tide at Singapore. By Captain C. M. Elliot, M.E., F.R.S.	162
On the Blood-proper and Chyloaqueous Fluid of Invertebrate Animals. By Thomas Williams, M.D.	163
Experimental Researches in Electricity: Twenty-ninth Series. By Michael Faraday, Esq., D.C.L., F.R.S., &c	165
On the Electro-chemical Polarity of Gases. By W. R. Grove, Esq., M.A., F.R.S., &c.	168
On the Structure of the Stem of Victoria regia. By Arthur Henfrey, F.L.S., &c.	169
On the Meteorology of the English Lake District, including the results of Observations on the Fall of Rain at various heights, up to 3166 feet above the Sea-Level: Fifth paper, for the year 1851. By John Fletcher Miller, Esq., F.R.S., &c.	170
Notes on the Impregnation of the Ovum in the Amphibia: in a Letter to Thomas Bell, Esq., Sec. R.S. By G. Newport	171
Further Experiments on Light. By Henry Lord Brougham, F.R.S., Member of the Institute of France, and of the Royal Academy of Sciences of Naples	172
On Periodical Laws discoverable in the mean effects of the larger Magnetic Disturbances.—No. II. By Colonel Edward Sabine, R.A., Treas, and V.P.R.S., &c.	174
Report of the general process adopted in Graduating and Comparing	

the Standard Meteorological Instruments for the Kew Observa- tory. By Mr. John Welsh	178
On the Graduation of the Thermometers supplied from the Kew Observatory for the use of the Arctic Searching Expedition under Sir Edward Belcher. By Mr. John Welsh	183
The Reply of the President and Council to a Letter addressed to them by the Secretary of State for Foreign Affairs, on the subject of the cooperation of different Nations in Meteorological Observations	188
Second Appendix to a paper entitled "Discovery that the Veins of the Bat's Wing (which are furnished with valves) are endowed with rythmical contractility." By T. Wharton Jones, Esq., F.R.S., &c.	192
Upon the Morphology of the Cephalous Mollusca, as illustrated by the anatomy of certain Heteropoda and Pteropoda. By Thomas H. Huxley, Esq., F.R.S.	192
On the Change of Refrangibility of Light. By George G. Stokes, Esq., M.A., F.R.S., Lucasian Professor of Mathematics, Cambridge	195
Analytical Researches connected with Steiner's Extension of Malfatti's Problem. By Arthur Cayley, M.A., Fellow of Trinity College, Cambridge	200
On the Tides, Bed and Coasts of the North Sea or German Ocean. By John Murray, Esq	201
On the Structure and Development of Bone. By John Tomes, F.R.S., Surgeon Dentist to the Middlesex Hospital, and Campbell De Morgan, Surgeon to the Middlesex Hospital	203
On Rubian and its Products of Decomposition. Part II. Action of Alkalies and Alkaline Earths on Rubian. By Edward Schunck, Esq., F.R.S.	208
Experiments towards the construction of new forms of Instruments for the correction of Compass Errors due to the presence of iron in ships; with investigations on the nature of the attraction of Iron on the poles of Magnets. By Julius Roberts, Esq., Lieut. R.M. Artillery	
On the Impregnation of the Ovum in the Amphibia (Second Series revised), and on the direct agency of the Spermatozoon. By George Newport, F.R.S., F.L.S., &c.	214
On the Functions of the Membrana Tympani, the Ossicles and Muscles of the Tympanum, and of the Eustachian Tube in the Human Ear, with an account of the Muscles of the Eustachian Tube and their action in different classes of Animals. By Joseph Toynbee, Esq., F.R.S., &c.	
An Experimental Inquiry undertaken with the view of ascertaining whether any, and what signs of current Force are manifested during the organic process of Secretion in living Animals (continued). By H. F. Baxter, Esq.	
On a new Series of Organic Bodies containing Metals. By Dr. E. Frankland, Professor of Chemistry, Owens College, Manchester	
On the Dentate Body of the Cerebellum. By William Brinton, M.D.	
Proof of a sensible difference between the Mercurial and Air-Thermometers from 0° to 100° C. By J. J. Waterston, Esq	
An Experimental Inquiry undertaken with the view of ascertaining	

the organic process of Absorption (Lacteal) in living animals.—Part II. By H. F. Baxter, Esq page	230
An Experimental Inquiry undertaken with the view of ascertaining whether any, and what signs of Current Force are manifested during the organic process of Assimilation in the Muscular and the Nervous Tissues in living animals.—Part III. By H. F. Baxter, Esq	
On the Theory of Waves. By Andrew John Robertson, Esq	231
An Experimental Inquiry undertaken with the view of ascertaining whether any signs of Current Electricity are manifested in Plants during vegetation. By H. F. Baxter, Esq	267
On the relation of Cardioids to Ellipses. By Joseph Jopling, Esq	267
On the Solution of Urinary Calculi in dilute Saline Fluids, at the temperature of the body, by the aid of Electricity. By H. Bence Jones, M.D., F.R.S., Physician to St. George's Hospital	26 8
1853.	
On Molecular Influences. Sect. I. Transmission of Heat through Organic Structures. By John Tyndall, F.R.S.	270
Description of some species of the extinct genus Nesodon. By Professor Owen, F.R.S	272
On the Extension of the value of the ratio of the Circumference of a circle to its Diameter. By William Rutherford, Esq., F.R.A.S	274
An Account of a Deep-sea Sounding in 7706 fathoms, in 36° 49' South Latitude, and 37° 6' West Longitude. By Captain Henry Mangles Denham, R.N., F.R.S.	275
On the Eclipses of Agathocles, Thales and Xerxes. By George B. Airy, Esq., F.R.S., &c., Astronomer Royal	276
An account of an Explosive Meteorite. By Francis Higginson, Esq., R.N.	276
On the determination of the Mean Temperature of every day in the year, as deduced from the Observations taken at the Royal Observatory, Greenwich, in the Years from 1814 to 1851. By James Glaisher, Esq., F.R.S	281
On the periodic and non-periodic variations of Temperature at Toronto in Canada from 1841 to 1852 inclusive. By Colonel Edward Sabine, R.A., Treasurer and Vice-President of the Royal Society	284
On the Muscles which open the Eustachian Tube. By Joseph Toynbee, M.D., F.R.S.	286
On Periodical Laws in the larger Magnetic Disturbances. By Captain Younghusband, R.A., F.R.S.	287
On the Meteorology of the English Lake District (Sixth paper, for 1852). By John F. Miller, Esq., F.R.S., &c	290
Probable connection between solar spots and the auroræ. By W. Stevenson	291
On the Reproduction of the Toad and Frog without the intermediate stage of Tadpole. By Edward Joseph Lowe, Esq., F.G.S., F.R.A.S.	292
On Animal and Vegetable Fibre as originally composed of Twin Spiral	

Filaments, in which every other structure has its Origin; a Note showing the confirmation by Agardh, in 1852, of observations recorded in the Philosophical Transactions for 1842. By Martin Barry, M.D., F.R.S., F.R.S.E	293
On the penetration of Spermatozoa into the interior of the Ovum; a Note showing this to have been recorded as an established fact in the Philosophical Transactions for 1843. By Martin Barry, M.D., F.R.S., F.R.S.E.	295
Observations on the Anatomy of the Antennæ in a small species of Crustacean. By John D. McDonald, M.D., Assistant Surgeon to H.M.S.V. Torch	
On certain Functions of the Spinal Chord. By J. Lockhart Clark, Esq	297
	298
	300
On the Application of the Law of the Conservation of Energy to the Determination of the Magnetic Meridian on board Ship, when out of reach or out of sight of Land. By W. J. Macquorn Rankine	3 03
Additional remarks to the foregoing paper	304
A few Remarks on Currents in the Arctic Seas. By P. C. Sutherland,	305
A letter from Mr. Joule to Colonel Sabine on Regnault's experiments.	307
Experimental Researches on Vegetation. By M. Georges Ville	
An Account of Meteorological Observations in four Balloon Ascents made under the direction of the Kew Observatory Committee of the British Association. By John Welsh, Esq	
Further Experiments and Observations on the Properties of Light. By Lord Brougham, F.R.S., Member of the Institute of France	312
Researches on the distribution of the Blood-vessels, &c. in the Lungs. By James Newton Heale, M.D.	315
Theory of the reciprocal Action between the Solar Rays and the different Media by which they are reflected, refracted or absorbed. By Joseph Power, Esq., M.A., Fellow of Clare Hall and Librarian of the University of Cambridge, &c	317
On the Anatomy and Physiology of Cordylophora, a contribution to our knowledge of the Tubularian Zoophytes. By George James Allman, M.D., M.R.I.A., Professor of Botany in the University of Dublin, &c.	
On the Secular Variation of the Moon's Mean Motion. By J. C. Adams, Esq., M.A., F.R.S., &c.	321
On a Theory of the conjugate relations of two rational integral functions, comprising an application to the Theory of Sturm's Functions, and that of the greatest Algebraical Common Measure, By J. J. Sylvester, Esq., M.A., F.R.S., Barrister at Law	324
On the frequent occurrence of Indigo in Human Urine, and on its Chemical and Physiological Relations. By Arthur Hill Hassall, M.D., Physician to the Royal Free Hospital, &c.	327

On the Thermal Effects of Elastic Fluids. By Professor William Thomson, F.R.S., and J. P. Joule, Esq., F.R.S page	331
On Clairaut's Theorem and Subjects connected with it. By Matthew Collins, Esq., B.A., Senior Moderator in Mathematics and Physics	332
On the Change of Refrangibility of Light.—No. II. By Professor Stokes, M.A., F.R.S.	333
Researches in Embryology; a Note supplementary to Papers published in the Philosophical Transactions for 1838, 1839 and 1840, showing the confirmation of the principal facts there recorded, and pointing out a correspondence between certain structures connected with the Mammiferous Ovum and other Ova. By Martin Barry, M.D., F.R.S., F.R.S.E.	33 <i>5</i>
On the Nerves which supply the Muscular Structure of the Heart. By Robert Lee, M.D., F.R.S.	3 37
On the Influence of the Moon on the magnetic direction at Toronto, St. Helena, and Hobarton. By Colonel Edward Sabine, R.A., V.P. and Treas.	338
Extract of a letter from Lieut. Gilliss, U.S.N. to Colonel Sabine, R.A.,	339
On the Typical Forms of the large Secreting Organs of the Human	340
On some of the Products of the Decomposition of Nitrotoluylic Acid. By Henry M. Noad, Ph.D., Lecturer on Chemistry at St. George's Hospital	373
Extract of a Letter from Dr. Edward Vogel to Colonel Sabine on the	374
Notice of a Comet seen from H.M. Brig Penguin off the Coast of South Africa. By W. B. Edwards, Master H.M. Brig Penguin	
On a New Method of propagating Plants. By E. J. Lowe, Esq., F.R.A.S., F.G.S., &c.	376
On the Acidity, Sweetness, and Strength of Wine, Beer and Spirits. By H. Bence Jones, M.D., F.R.S.	37 8
An Inquiry into some of the circumstances and principles which regulate the production of Pictures on the Retina of the Human Eye, with their measure of endurance, their Colours and Changes. By the Rev. W. Scoresby, F.R.S., Corresponding Member of the Institute of France, &c.	380
On certain Properties of Square Numbers and other Quadratic Forms, with a Table by which all the odd numbers up to 9211 may be resolved into not exceeding four square numbers. By Sir Frederick Pollock, F.R.S., &c.	383
1854.	
On some New and Simple Methods of detecting Manganese in Natural and Artificial Compounds, and of obtaining its Combinations for economical or other uses. By Edmund Davy, Esq., F.R.S., M.R.I.A.,	002

Supplement to a Paper on certain Properties of Square Numbers and other Quadratic Forms, with a Table, &c. By Sir Frederick Pollock, F.R.S., &c	388
On the Geometrical Representation of the Expansive Action of Heat, and the Theory of Thermo-dynamic Engines. By William John Macquorn Rankine, Civil Engineer, F.R.S.S. Lond. and Edinb., &c.	388
On the Vibrations and Tones produced by the contact of bodies having different Temperatures. By J. Tyndall, Esq., F.R.S.	392
Letter from Prof. Hansteen to Col. Sabine on variations of the magnetical inclination	393
Sur la Théorie de l'orientation du Plan oscillatoire du Pendule simple, et son application à la recherche de l'aplatissement du sphéroide terrestre. By M. Oliveira	396
On the Extension of the value of the Base of Napier's Logarithms; of the Napierian Logarithms of 2, 3, 5, and 10; and of the Modulus of Briggs's, or the Common System of Logarithms; all to 205 places of decimals. By William Shanks, Esq	397
Further researches into the properties of the Sulphate of Iodo-Quinine or Herapathite, more especially in regard to its Crystallography, with additional facts concerning its optical relations. By William Bird Herapath, M.D.	3 98

vouloir bien être, auprès de la Société Royale l'interprète des sentimens de profond respect et de gratitude dont je suis pénétré, je dois ajouter aussi (comme dejà l'aura fait, en mon nom, M. le Chevalier Bunsen, mon noble et spirituel ami) que je suis heureux d'adresser ces lignes à celui pour lequel dans le *Cosmos* même j'ai osé deposer l'hommage de ma vive admiration.

Je suis avec la plus haute et respectueuse considération, Monsieur le Comte,

> Votre très-humble et très-obéissant serviteur, Le Baron de Humboldt.

A M. Le Comte de Rosse, P.R.S.

Gentlemen, London, February 3, 1853.

By the kind indulgence of my co-executors, Mr. George Thornton and Mr. John Daniell, I am permitted to announce to you a most interesting bequest to the Royal Society, from my uncle the Rev. Charles Turnor, F.R.S., who was suddenly taken from us on the 12th ultimo, namely, a collection of drawings, memoirs, a few medals, and other articles enumerated in a list, illustrative of Sir Isaac Newton.

The well known property at Woolsthorpe in Lincolnshire, which formerly belonged to Sir Isaac Newton, was purchased by the ancestor of Mr. Turnor in or about the year 1730, four years after his death.

My father-in-law, the late Mr. Turnor, wrote what he could collect in his 'History of the Soke of Grantham,' and his younger brother, the Rev. Charles Turnor, continuing the subject, has at great expense devoted much time to this collection. I may therefore be excused in saying that it is from no common hand you receive this valuable addition to your Library.

We send you a copy of the Codicil of the Will relating to the bequest, and will immediately arrange the several articles in the collection for delivery to you. I should certainly wish the Dial presented by Mr. Charles Turnor, to either form part of the collection, or be placed near it, as it was taken from the wall of Sir Isaac's residence at Woolsthorpe.

I am, Gentlemen, Your obedient and humble Servant, FREDERICK MANNING.

To the Secretaries of the Royal Society.

Extract from the Codicil to the Will of the Rev. Charles Turnor.

"I give and bequeath to the President and Council of the Royal Society at Somerset House, Strand, London, the sum of two hundred pounds free of legacy duty, in trust, that they shall apply and expend the same, at their discretion, in the completion of my collection called the 'Collectanea Newtoniana,' within the period of twelve months after my decease. And I hereby give and bequeath all the materials of which the said 'Collectanea' is composed, to the same President and Fellows of the Royal Society absolutely, to be